



MSHA's Occupational Illness and Injury
Prevention Program
Health Idea
"Bulldozer Noise Control"

**SAFETY
IS A
VALUE!**

Category : Noise
Mine Type: All Surface

This guide presents practical engineering noise controls for mine operators to reduce the noise exposure of the bulldozer equipment operator. The bulldozer operator needs to conduct a pre-shift inspection of health controls like the preshift safety inspection. Any deficiencies need to be reported to the foreman.

Every bulldozer should have a muffler installed. A muffler is installed on the engine's exhaust. The exhaust outlet of the muffler should be extended to be at least one foot above the cab and the exhaust port pointed away from the cab. This directs the exhaust noise away from the cab.



Ideally the bulldozer has a cab installed. The cab is needed to isolate the bulldozer operator from the noise. Openings to the outside need to be plugged. Noise can enter through a small hole and substantially raise the sound level in the operator's cab. Ideally holes are sealed with a dense material that has a high sound transmission loss. Openings through which operating controls pass should be covered using rubber boots. These boots permit the controls to function properly yet reduce the noise entering the cab. Any holes in the window glass or tears in the seals around the windows require replacement.

Sound absorbing materials are usually installed inside the cab. Large, bare metal surfaces need to be covered with sound absorbing material so that it will absorb part of the noise that enters the cab and prevent reverberation off hard, uncovered surfaces.



Used conveyor belting covered with a flexible floor mat makes a good noise control treatment for the floor. The belting blocks the noise while the flexible floor mat absorbs some of the noise. The flexible floor mat has sound absorbing material adhered to the under-side.

Seals around the doors and windows need to be kept clean, flexible, and intact. The seals allow the door to close completely and help prevent the noise from entering the cab. Bent doors need to be straightened or replaced.

Finally the cab needs to be climate controlled. A quality air conditioner and heater are necessary for the operator to keep the doors and windows closed. The air conditioner and heater need to be maintained in good working order. Opening the doors or windows for ventilation defeats the purpose of the cab for noise control. Air filters in the environmental control system need to be maintained and kept free of any dust accumulation and free of holes. Besides reducing the noise exposure, a sealed climate-controlled cab can reduce the operator's dust exposure.

Adopting and maintaining all the above controls should substantially reduce the noise exposure of the bulldozer operator. Whenever maintenance work is performed on the bulldozer any removed noise control must be replaced prior to using the bulldozer.

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Remember - Safety is a Value that you can LIVE with!